



Sexual Dysfunction in Women with Chronic Renal Failure: Assessment with the Female Sexual Function Index

Kronik Renal Yetmezlikli Kadınlarda Seksüel Disfonksiyon: Kadın Seksüel Fonksiyon İndeksi ile Değerlendirilmesi

Kronik Renal Yetmezlik ve FSFI / Chronic Renal Failure and FSFI

Sezgin Guvel¹, Aysegul Zurnutdal²

¹Department of Urology, ²Department of Nephrology, Baskent University Faculty of Medicine, Adana Teaching and Medical Research Center, Adana, Turkey

Özet

Amaç: Bu çalışmada, herhangi bir renal replasman tedavisi görmeyen kronik böbrek yetmezlikli (KBY) (grup 1), peritoneal dializ gören son dönem böbrek yetmezlikli (SDBY) (grup 2) ve hemodializ gören SDBY'li kadın hastalar (grup 3) arasında cinsel işlev bozukluğu açısından bir fark olup olmadığını araştırmayı amaçladık. **Gereç ve Yöntem:** Bu çalışmaya 81 evli kadın hasta dahil edildi: Grup 1'de 24 kadın, grup 2'de 16 kadın ve grup 3'te 41 kadın yer aldı. Grup 1, 2 ve 3 hastalarının yaş ortalaması sırasıyla $51,1 \pm 13$, $54,6 \pm 12,3$ ve $48,3 \pm 9,3$ yıl olarak belirlendi. Yaş ortalamaları $46,4 \pm 8,6$ yıl olan 38 gönüllü birey kontrol grubu olarak belirlendi. Hastaların cinsel fonksiyonları Kadın Cinsel Fonksiyon İndeksi (FSFI) ile değerlendirildi. Grupların FSFI skorları istatistiksel olarak karşılaştırıldı. Tüm gruplarda, cinsel işlev ile yaş, hemogloblin konsantrasyonu (< 11 veya ≥ 11 g / dL) ve sekonder hiperparatiroidizm arasındaki ilişkiler de araştırıldı. Grup 1'de, ayrıca cinsel fonksiyon ve kreatinin düzeyi arasındaki ilişki de ($\leq 2,0$ veya $> 2,0$ mg / dL) incelendi. İstatistiksel analizlerde Kruskal-Wallis, Mann-Whitney U testleri ve lojistik regresyon analizi kullanılmıştır. İstatistiksel analizler SPSS 16,0 ile yapıldı. **Bulgular:** Tüm hasta gruplarında toplam FSFI skorları ve FSFI indeksi içindeki her parametrenin ortalama puanları, kontrol grubu ile karşılaştırıldığında anlamlı olarak daha düşüktü ($p < 0,001$). FSFI skorları Grup 2'de en düşüktü, bunu grup 1 ve 3 izledi (sıklık sırasına göre). Ancak, üç grup arasında FSFI skorları açısından anlamlı fark yoktu. Grup 1'de 6 hasta (% 25), grup 2'de 6 hasta (% 37,5) ve 3. grupta 10 hasta (% 24,3) 1 yıldan daha fazla sürede hiç cinsel ilişkiye girmediğini belirtti. Yaş ve FSFI skorları arasında negatif korelasyon saptandı, ancak FSFI skorları ile hemogloblin düzeyleri, kreatinin ve paratiroid hormon düzeyleri arasında anlamlı bir ilişki yoktu. **Sonuç:** KBY cinsel fonksiyon üzerinde olumsuz bir etkiye sahiptir. Renal replasman tedavisi görmeyen KBY'li (grup 1), peritoneal dializ gören SDBY'li (grup 2) ve hemodializ gören SDBY'li (grup 3) kadın hastalar arasında cinsel işlev bozukluğu açısından fark saptanmadı.

Anahtar Kelimeler

Kadın; Böbrek Yetmezliği; Seksüel Disfonksiyon

Abstract

Aim: In this study, we aimed to investigate whether there was a difference in sexual dysfunction between female chronic renal failure (CRF) patients not on renal replacement therapy (group 1) and female patients on peritoneal dialysis for end-stage renal disease (ESRD) (group 2) and those on hemodialysis for ESRD (group 3). **Material and Method:** This study included 81 married women: 24 women were in group 1, 16 women were in group 2, and 41 women were in group 3. The mean age of the patients in groups 1, 2 and 3 were 51.1 ± 13.0 , 54.6 ± 12.3 and 48.3 ± 9.3 years, respectively. Thirty-eight volunteers with a mean age of 46.4 ± 8.6 years were assigned to the control group. Sexual function of the patients was assessed with the Female Sexual Function Index (FSFI). Group FSFI scores were statistically compared. In all groups, we investigated for correlations between sexual function and age, hemoglobin concentration (< 11 vs ≥ 11 g/dL), and secondary hyperparathyroidism. In group 1, we also tested the relationship between sexual function and creatinine level (≤ 2.0 vs. > 2.0 mg/dL). The Kruskal-Wallis test, Mann-Whitney U test and logistic regression analysis were used as appropriate. Statistical analysis was done with SPSS version 16.0. **Results:** Total FSFI scores and scores of each parameter in the FSFI index were significantly low in all patient groups compared to the controls ($p < 0.001$). Group 2 received the lowest FSFI scores, followed by groups 1 and 3 (in the order of frequency). However, there was no significant difference in FSFI scores between the three groups. Six patients in group 1 (25%), six patients in group 2 (37.5%) and 10 patients in group 3 (24.3%) noted that they had had no sexual intercourse for more than 1 year. There was a negative correlation between age and FSFI scores, but there was no significant relationship between FSFI scores and hemoglobin concentrations, creatinine and parathyroid hormone levels. **Discussion:** CRF has a negative effect on sexual function. There was no difference in sexual dysfunction between female CRF patients not on renal replacement therapy (group 1) and female patients on peritoneal dialysis for ESRD (group 2) and those on hemodialysis for ESRD (group 3).

Keywords

Female; Renal Failure; Sexual Dysfunction

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Corresponding Author: Sezgin Guvel, Baskent University Faculty of Medicine, Adana Teaching and Medical Research Center, 01250, Adana, Turkey.

T.: +90 3223272727 F.: +90 3223271273 E-Mail: sezginguvel@hotmail.com

Introduction

Sexual dysfunction frequently accompanies chronic renal failure (CRF) and has important negative effects on quality of life in this population [1]. The primary etiology of CRF can cause sexual dysfunction, as can secondary conditions, such as hormonal dysfunction, peripheral or autonomic neuropathy, peripheral vascular disease, and psychological and physical stress. Only a few studies have looked at sexual dysfunction accompanying CRF in females; most have focused on males. Strippoli et al reported that 84% of women on hemodialysis have sexual dysfunction [2]. Yazici et al [3] found that the rate of sexual dysfunction is 94.1% in women on peritoneal dialysis and 100% in women on hemodialysis. A small number of studies have investigated both sexes, and these have revealed that sexual dysfunction accompanies CRF as frequently in females as it does in males [4, 5].

Our aim in this study was to investigate for possible differences in rates of sexual dysfunction in three groups: female CRF patients not undergoing renal replacement therapy, those undergoing peritoneal dialysis for end-stage renal disease, and those undergoing hemodialysis for end-stage renal disease. Second aim is to compare the sexual functions of three groups with the control group. Female CRF patients not undergoing renal replacement therapy were followed in the nephrology outpatient clinic for at least 6 months. In addition to rates, we assessed for links between sexual function and patient age; serum levels of hemoglobin, creatinine, and parathyroid hormone.

Material and Method

This study included 81 women with CRF and 38 control subjects. Of the 81 patients, 24 were receiving no renal replacement therapy (Group 1), 16 were on peritoneal dialysis (Group 2), and 41 were on hemodialysis (Group 3). All the patients were married and their spouses had no sexual function problems. The mean ages of groups 1, 2 and 3 were 51.1 ± 13.0 , 54.6 ± 12.3 and 48.3 ± 9.3 years, respectively. The etiologies of CRF were diabetes (32 patients), hypertension (19 patients), chronic glomerulonephritis (7 patients), urolithiasis (6 patients), polycystic kidney disease (3 patients), amyloidosis (1 patient) vesicoureteral reflux (1 patient), and unknown in 12 cases.

The control group comprised 38 healthy female volunteers of mean age 46.4 ± 8.6 years. These women were also married to spouses who had no sexual function issues. None of the controls had received medical treatment in the 3 months prior to the study.

The Female Sexual Function Index (FSFI) was used to assess sexual function [6]. This index includes 19 questions related to 6 parameters: sexual desire, sexual arousal, lubrication, orgasm, sexual satisfaction and dyspareunia. The same physician (AZ) conducted a face-to-face interview with each participant in which the FSFI questions were verbally asked and answered. The Female Sexual Function Index was calculated as Rosen et al. have previously described. The individual domain scores and full scale score derived by the computational formula is outlined in the table 1. [6]. Individual domain scores are obtained by adding the scores of the individual items that

comprise the domain and multiplying the sum by the domain factor. The full scale score is obtained by adding the six domain scores. It should be noted that within the individual domains, a domain score of zero indicates that no sexual activity was reported during the past month. Higher scores indicated better function.

Group FSFI scores were statistically compared. Analysis was also done with patients in group 1 categorized according to serum creatinine level (≤ 2.0 vs. > 2.0 mg/dL). All participants were also divided into two groups according to hemoglobin concentration (< 11 vs ≥ 11 g/dL). In all groups, we investigated for correlations between sexual function and age, hemoglobin concentration, and secondary hyperparathyroidism. In group 1, we also tested the relationship between sexual function and creatinine level. The Kruskal–Wallis test, Mann–Whitney U test and logistic regression analysis were used as appropriate. Statistical analysis was done with SPSS 16.0.

Results

The mean total FSFI score and mean score for each index parameter in each of groups 1 through 3 were significantly lower than the corresponding findings for the control group (Table 2). Group 2 (women on peritoneal dialysis) had the lowest FSFI scores, followed by groups 1 and 3, respectively. However, there were no significant differences among the mean FSFI scores in groups 1, 2 and 3. Satisfaction and orgasm were the parameters with the lowest scores in groups 1 and 2, and orgasm and arousal were the parameters with the lowest scores in group 3. Six patients in group 1 (25%), 6 patients in group 2 (37.5%), and 10 patients in group 3 (24.4%) stated that they had not had sexual activity for more than 1 year. All of the 6 patients in group 2 who had not had sexual activity for this period of time said that they were afraid the catheter used for peritoneal dialysis would be damaged. Eight of the 10 patients in group 3 in this category stated the reason for no intercourse was lack of sexual desire. There was no significant difference between the mean ages of

Table 1. The Female Sexual Function Index (FSFI) scoring system

Domain	Questions	Score Range	Factor	Minimum Score	Maximum Score
Desire	1,2	1-5	0.6	1.2	6.0
Arousal	3,4,5,6	0-5	0.3	0	6.0
Lubrication	7,8,9,10	0-5	0.3	0	6.0
Orgasm	11,12,13	0-5	0.4	0	6.0
Satisfaction	14,15,16	0-5	0.4	0	6.0
Pain	17,18,19	0-5	0.4	0	6.0
TOTAL				1.2	36.0

Table 2. Comparison of groups' FSFI scores to the control group.

	Control n = 38	Group 1 n = 24	Group 2 n = 16	Group 3 n = 41--	P*
Sexual desire	2.71 ± 1.13	1.97 ± 1.24	1.61 ± 0.78	1.88 ± 1.02	< 0.001
Arousal	3.38 ± 1.62	1.85 ± 1.78	1.35 ± 1.04	1.85 ± 1.72	< 0.001
Lubrication	4.34 ± 1.99	1.88 ± 2.35	0.76 ± 1.66	2.67 ± 2.14	< 0.001
Orgasm	3.62 ± 1.71	1.83 ± 2.21	0.65 ± 1.41	2.00 ± 1.84	< 0.001
Satisfaction	3.58 ± 1.86	1.68 ± 1.99	0.62 ± 1.37	2.10 ± 1.79	< 0.001
Dyspareunia	4.49 ± 2.03	2.16 ± 2.54	0.82 ± 1.81	3.16 ± 2.53	< 0.001
Total	22.20 ± 9.28	11.39 ± 11.70	5.83 ± 7.92	13.69 ± 10.04	< 0.001

*Kruskal–Wallis test

the 81 patients and 38 controls. In regression analysis age negatively associated with FSFI score, but there was no association between FSFI score and hemoglobin concentration, creatinine level, or parathyroid hormone level.

Discussion

Sexual dysfunction is relatively common among CRF patients. Kettas et al showed that women with ESRD have higher risk of sexual dysfunction and they should be investigated for sexual dysfunction to improve the quality of life [7]. Multiple factors such as menstrual abnormalities; decreased libido and fertility impairment are especially frequent among female CRF patients [8]. These abnormalities are primarily due to systemic factors and are related to morbid conditions that accompanying uremia. The malaise and psychosocial stress that result from chronic disease are contributing factors. These symptoms may contribute to depression and reduce the sexual activity. Filocamo et al [9] reported that successful renal transplantation may improve the sexual life in women with CRF. In that study, although 41% women had an active sexual life during dialysis, this proportion increased to 88% after renal transplantation. Also the hormonal profile and FSFI scores improved significantly after transplantation [9].

Studies to date have shown that sexual dysfunction increases in severity as CRF progresses. Levy [10] reported that 9% of male CRF patients had sexual dysfunction before renal replacement therapy, and that this proportion increased to 60% after replacement therapy. In contrast to this study, Basok et al [11] found the rate of sexual dysfunction in women on predialysis (81%) higher than in women on peritoneal dialysis (66.7%) and in women on hemodialysis (75%). In our study we also found no significant differences in sexual function between CRF patients on renal replacement therapy and those who were not receiving therapy. This may be because the patients studied were of relatively advanced age. Old age alone is known to be a risk factor for sexual dysfunction.

We did not find a significant relationship between FSFI scores and hemoglobin concentrations and secondary hyperparathyroidism in patient groups. However, previous studies have shown that sufficient dialysis; correction of anemia with erythropoietin treatment, and achieving control of secondary hyperparathyroidism may have positive effects on sexual function in CRF patients [12, 13].

It is only natural for individuals who fear death due to chronic disease, and who constantly struggle with disease-related problems to place lower importance on sexual relations [14]. One of the most important findings of our study was that 22 of the 81 (27%) CRF patients had not had sexual activity for more than 1 year. Abstinence from sexual activity affects both the patients and their spouses. In the group on peritoneal dialysis, the women who were abstaining from sexual intercourse said they were doing so because they feared the dialysis catheter might be damaged. Indeed, though there were no significant differences among the mean total FSFI scores in the three patient groups, the women on peritoneal dialysis had the lowest total FSFI scores. It is important that both CRF patients and their spouses be given psychological support and information about the disease and sexual activity.

In conclusion, CRF has negative effects on sexual function. In fact, many CRF patients abstain from sexual intercourse. Abstinence from sexual activity has one of the most important negative impacts on quality of life in CRF patients; however, this problem has not been given the attention it deserves. Sexual problems should not be disregarded during assessment and follow-up of CRF patients, as good sexual function is important for maintaining quality of life in this group.

Competing interests

The authors declare that they have no competing interests.

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